



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
WASHINGTON, D.C. 20555-0001

December 3, 2019

Dr. Cameron Goodwin, Director  
Rhode Island Nuclear Science Center  
16 Reactor Road  
Narragansett, RI 02882-1165

SUBJECT: RHODE ISLAND ATOMIC ENERGY COMMISSION – U.S. NUCLEAR  
REGULATORY COMMISSION ROUTINE INSPECTION REPORT  
NO. 50-193/2019-204

Dear Dr. Goodwin:

From November 4-7, 2019, the U.S. Nuclear Regulatory Commission (NRC) conducted an inspection at your Rhode Island Nuclear Science Center reactor facility. The enclosed report documents the inspection results which were discussed on November 8, 2019, with you and members of your staff, as well as Dr. Clinton Chichester, Chairman of the Rhode Island Atomic Energy Commission.

The inspection examined activities conducted under your license, as they relate to public health and safety, by confirming compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel. Based on the results of this inspection, no findings of non-compliance were identified. No response to this letter is required.

In accordance with Title 10 of the *Code of Federal Regulations*, Section 2.390, "Public inspections, exemptions, requests for withholding," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (Agencywide Documents Access and Management System (ADAMS)). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any question concerning this inspection, please contact Craig Bassett at (240) 535-1842 or by electronic mail at [Craig.Bassett@nrc.gov](mailto:Craig.Bassett@nrc.gov).

Sincerely,

**/RA/**

Anthony J. Mendiola, Chief  
Non-Power Production and Utilization Facility  
Oversight Branch  
Division of Advanced Reactors and Non-Power  
Production and Utilization Facilities  
Office of Nuclear Reactor Regulation

Docket No. 50-193  
License No. R-95

Enclosure:  
As stated

cc: See next page

cc:

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Supervising Radiological Health Specialist  
Office of Occupational and  
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Rhode Island Department of Health  
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Test, Research and Training  
Reactor Newsletter  
Attention: Amber Johnson  
Dept. of Materials Science and Engineering  
University of Maryland  
4418 Stadium Drive  
College Park, MD 20742-2115

SUBJECT: RHODE ISLAND ATOMIC ENERGY COMMISSION – U.S. NUCLEAR  
REGULATORY COMMISSION ROUTINE INSPECTION REPORT NO.  
50-193/2019-204 DATED: DECEMBER 3, 2019

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**U.S. NUCLEAR REGULATORY COMMISSION**  
**OFFICE OF NUCLEAR REACTOR REGULATION**

Docket No.: 50-193

License No.: R-95

Report No.: 50-193/2019-203

Licensee: Rhode Island Atomic Energy Commission

Facility: Rhode Island Nuclear Science Center

Location: Narragansett, Rhode Island

Dates: November 4-7, 2019

Inspector: Craig Bassett

Approved by: Anthony J. Mendiola, Chief  
Non-Power Production and Utilization Facility  
Oversight Branch  
Division of Advanced Reactors and Non-Power  
Production and Utilization Facilities  
Office of Nuclear Reactor Regulation

Enclosure

## EXECUTIVE SUMMARY

Rhode Island Atomic Energy Commission  
Rhode Island Nuclear Science Center Reactor Facility  
Inspection Report No. 50-193/2019-204

The primary focus of this announced, routine inspection was the onsite review of selected aspects of the Rhode Island Atomic Energy Commission's (RIAEC's or the licensee's) Class I, two megawatt research reactor safety program including: (1) operator licenses, requalification, and medical examinations; (2) experiments; (3) organization and operations and maintenance activities; (4) review and audit and design change functions; (5) procedures; (6) fuel movement; (7) surveillance; and (8) emergency preparedness. The review covered from the date of the last U.S. Nuclear Regulatory Commission (NRC) inspection of these areas to the present. The licensee's program was acceptably directed toward the protection of public health and safety and in compliance with the NRC requirements.

### Operator Licenses, Requalification, and Medical Examinations

- Operator requalification was being completed as required by the licensee's Operator Requalification Program.
- Operators were receiving their biennial medical examinations as required.

### Experiments

- The program for reviewing, authorizing, and conducting experiments satisfied technical specification (TS) and procedural requirements.

### Organization and Operations and Maintenance Activities

- Organizational structure and staffing were consistent with TS requirements.
- The present staffing level appeared to be adequate for current operations.
- Operational and maintenance activities were conducted in accordance with TS and procedural requirements.

### Review and Audit and Design Change Functions

- The Nuclear and Radiation Safety Committee (NRSC) was meeting as required and reviewing the topics outlined in the TS. Audits were being completed as required.
- Facility modifications and procedure changes were being evaluated in accordance with the requirements specified in Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.59, "Changes, tests and experiments."

### Procedures

- The procedural review, revision, and implementation program satisfied the requirements of TSs.

### Fuel Movement

- Fuel movements were conducted in accordance with TS and procedural requirements.
- Fuel inspections were being completed annually as required.

### Surveillance

- The surveillance program was conducted in accordance with TS and procedural requirements.

### Emergency Preparedness

- The licensee maintained an effective emergency preparedness program through implementation of the emergency plan (E-Plan) and the associated implementing procedure.
- Drills and exercises were being conducted along with follow-up critiques in support of staff training.

## REPORT DETAILS

### Summary of Facility Status

The licensee's Rhode Island Nuclear Science Center (RINSC) Class I, two-megawatt research reactor continued to be operated in support of research, development, education, training, and surveillance. During the inspection, the reactor was operated in support of this inspection.

### 1. Operator Licenses, Requalification, and Medical Examinations

#### a. Inspection Scope (Inspection Procedure (IP) 69003)

The inspector reviewed selected aspects of the following to ensure compliance with the licensee's operator requalification program outlined in RINSC Administrative Procedure (AP) AP-02, "Reactor Operator Requalification," Revision (Rev.) 4:

- Reactor Logbook Numbers (Nos.) 63, 64, and 65
- Individual reactor operator (RO) and senior reactor operator (SRO) requalification files containing copies of the following:
  - Operator Requalification Program Check Sheet forms (referred to as Nuclear Science Center form No. 45 [NSC-45])
  - Annual Operational Requalification Exam forms
  - Biennial Operator Requalification Examinations
  - Letters from the NRC to the licensed operators documenting the issuance of operating licenses
- A current copy of each operators' biennial NRC Form 396, "Certification of Medical Examination by Facility Licensee"
- American National Standards Institute/American Nuclear Society-15.4-2016, "Selection and Training of Personnel for Research Reactors," Section 7, "Medical certification and monitoring of licensed personnel"

#### b. Observations and Findings

The inspector verified that there were five licensed and qualified operators working at the facility, three SROs and two ROs. A review of the logs and records showed that training was being conducted in accordance with the licensee's requalification and training program. Procedure reviews and examinations had been documented as required. Information regarding facility changes and other relevant information was routed to all licensed operators, typically via electronic mail (E-mail), who then acknowledged their review of this information.

The inspector verified that quarterly reactor operations, reactivity manipulations, and supervisory activities were being completed as required, and the appropriate records were being maintained. All these activities were tracked, documented, and signed off by the Reactor Supervisor (RS). The inspector noted that the maintenance board was also being utilized to track the requalification status for all licensed personnel.

Records indicating the successful completion of the annual operations tests and supervisory observations were also maintained. Biennial written exams were being administered to the qualified operators as well. All operators were current and had completed those required tests and exams. The inspector also noted that all operators were receiving biennial medical examinations within the allowed time frame as required. The inspector determined that the program was being maintained up-to-date.

c. Conclusion

Operator training and requalification was being conducted in accordance with the licensee's Operator Requalification Program. Operators were receiving their biennial medical examinations as required.

**2. Experiments**

a. Inspection Scope (IP 69005)

The inspector reviewed selected aspects of the following to verify that the licensee was in compliance with TS Sections 3.1, 3.8, 4.1, 4.8, and 4.9:

- Reactor Logbook Nos. 63, 64, and 65
- Operating Data Notebooks for 2019 containing completed copies of various Reactor Operations Request forms (NSC-49)
- Experiment approval, authorization, administrative controls and precautions documented on the appropriate forms including:
  - Reactor Experiment Request (Attachment D) forms (NSC-42)
  - Reactor Experiment Approval (Attachment C) forms (NSC-47)
  - Reactor Operation Request forms (NSC-49)
  - 10 CFR 50.59 Screen forms (NSC-24)
- Various RINSC Experiment Procedures (XP) including:
  - XP-01, "Reactor Experiment Request," Rev. 3
  - XP-02, "Reactor Experiment Approval," Rev. 6
  - XP-03, "Rabbit Irradiations," Rev. 2
  - XP-04, "Incore Irradiations," Rev. 2
  - XP-10, "Dry Irradiation Facility Irradiations," Rev. 1
  - XP-12, "Gamma Tube Irradiations," Rev. 2
- Recently Approved Experiments including:
  - No. 36, "TPCM Film Beamport/Rabbit Experiment," Rev. 2
  - No. 37, "Mini-Module Beamport Experiment," Rev. 0
  - No. 38, "Beamport Shielded Materials Experiment," Rev. 0

b. Observations and Findings

Since the last inspection in this area, three new experiments had been approved and two previously approved experiments had been revised. The inspector verified that each of the experiment proposals included a discussion of the proposed experiment, as well as the hazards involved and the anticipated results. The experiments had been reviewed by the reactor staff and were subsequently reviewed and approved by the NRSC as required.

The inspector verified that the appropriate irradiation request forms for the various experiments were completed and approved as required prior to reactor operations. The inspector also noted that all experiments were being conducted using approved methods or procedures and with the cognizance of the SRO on duty in accordance procedural requirements. The experiments were documented on the appropriate forms and in the operations log as required. Engineering and radiation protection controls were implemented as required to limit exposure of the workers handling the irradiated samples.

c. Conclusion

The program for reviewing, authorizing, and conducting experiments satisfied the TS and procedural requirements.

**3. Organization and Operations and Maintenance Activities**

a. Inspection Scope (IP 69006)

To verify that the licensee was complying with the requirements for organization and staffing, operations, and maintenance activities (as specified in TS Sections 2.0, 3.0, 6.1, and procedural requirements), the inspector reviewed selected aspects of the following:

- RINSC Maintenance Board (Spreadsheet)
- RINSC organizational structure and staffing
- Reactor Logbook Nos. 63, 64, and 65
- Listing of the members of the RINSC NRSC
- Listing of the members of the RIAEC
- Reactor operations documents maintained in Operating Data Notebooks for 2019 including completed copies of the following:
  - Selected Reactor Operations Request forms (NSC-49)
  - OP-02, "Pre-Start Checkout," Rev. 19
  - Selected RINSC Reactor Operations Data forms (NSC-18)
  - Selected Shift Record Data Sheet 1 & 2 forms (NSC-11)
  - Selected Shutdown Check Sheet forms (NSC-1C)
- RINSC Checklist for Securing Reactor Facility forms (NSC-15)
- Various RINSC Operating Procedures (OPs) including:
  - OP-01, "Reactor Operation Request," Rev. 3
  - OP-03, "Reactor Power Changes," Rev. 8
  - OP-04, "Abnormal Procedures," Rev. 5
- Maintenance notebook and associated documents including:
  - RINSC Calibration Procedure (CP) CP-04, "Alarm, Scram, and Interlock Checks," Rev. 10
  - RINSC Maintenance Procedure (MP) MP-05, "Emergency Generator Maintenance," Rev. 1, including Attachment 1 entitled, "RINSC Emergency Generator Maintenance Checklist" forms (NSC-44)
  - MP-06, "Cooling System Annual Inspection and Maintenance," Rev. 0
  - MP-07, "Draining and Filling the Reactor Pool," Rev. 0
- RINSC Annual Report for the period from July 1, 2017, through June 30, 2018, dated August 7, 2018

- RINSC Annual Report for the period from July 1, 2018, through June 30, 2019, dated July 26, 2019

b. Observations and Findings

(1) Organization

The inspector reviewed the facility organization and staffing. The organization had not changed since the last inspection and continued to be staffed as required. The Director continued to have responsibility for all activities in the facility as stipulated in TS. During reactor operations, a licensed SRO was assigned with the responsibility for all activities. The organizational structure at the facility was in compliance with TS.

The inspector noted that there continued to be three SROs and two ROs on staff at the facility as noted above. This allowed for an adequate number of staff members to support the reactor program.

(2) Operations

The inspector reviewed various forms that were required to be completed to document reactor operations. The inspector also reviewed reactor logbook entries to verify compliance with staffing requirements of TS Subsections 6.1.2 and 6.1.3, and the recordings of two TS required parameters (i.e., reactor power and primary coolant temperature). It was noted that appropriate documentation was being maintained. In addition, TS required parameters were within normal operating range during reactor operations. The inspector also verified that shift staffing during reactor operations met the TS requirements.

The inspector observed a reactor start-up and routine operation in support of a Nuclear Engineering class. Two SROs were assigned for this operation. The start-up and reactor operation were conducted efficiently, in an appropriate manner, and in accordance with licensee procedures.

(3) Maintenance

The inspector noted that the licensee continued to use a spreadsheet form for tracking maintenance and surveillance activities. The inspector verified that the activities being tracked were completed in accordance with TS and licensee procedures. The maintenance records indicated that preventive maintenance activities were completed as required. Routine maintenance activities were being conducted at the required frequencies and in accordance with the TS and/or the applicable maintenance procedure. Following maintenance activities, systems and equipment were tested to ensure that they were operational prior to being returned to service.

c. Conclusion

The organizational structure was in compliance with the TS requirements. The present staffing level appeared to be adequate for current conditions. Reactor operations and maintenance activities were conducted in accordance with the applicable procedures and were acceptable.

**4. Review and Audit and Design Change Functions**

a. Inspection Scope (IP 69007)

The inspector reviewed: 1) selected aspects of the review and audit program to ensure compliance with TS Section 6.2, and 2) selected design change activities to ensure compliance with 10 CFR 50.59:

- NRSC Charter, Rev. 5, approval dated September 11, 2017
- NRSC meeting minutes, dated December 11, 2017, through the present
- Design Change related forms including: "10 CFR 50.59 Screen," (NSC-24), and "10 CFR 50.59 Review (Attachment B)," (NSC-51)
- RINSC AP-03, "Facility Modifications," Rev. 2
- RINSC Annual Reports for the last two reporting periods as noted above

b. Observations and Findings

(1) Review and Audit Functions

The inspector reviewed the NRSC meeting minutes and associated records for December 2017 to the present. The minutes and records showed that meetings were being held and safety reviews and audits were conducted by various members of the NRSC, or other designated persons as required, and at the required frequency. Topics of these reviews and audits were consistent with the TS requirement, which was appropriate to provide guidance, direction, and oversight for the facility, and acceptable use of the reactor.

(2) Design Change Functions

The inspector evaluated the 10 CFR 50.59 review process used at the facility. It was noted that the licensee's procedure governing design changes provided guidance concerning the review of facility modifications and changes to procedures using the 10 CFR 50.59 review and evaluation process. Also, screening forms were used to determine whether or not a full 10 CFR 50.59 review and evaluation was required for any change being contemplated.

Through review of records and interviews with licensee personnel, the inspector determined that no changes had been proposed for the facility since the last inspection.

c. Conclusion

The NRSC was meeting as required and reviewing the topics outlined in the TS. Audits were being completed as required. The design change program was being implemented and records were maintained as required by 10 CFR 50.59.

**5. Procedures**

a. Inspection Scope (IP 69008)

To verify that facility procedures were being prepared, reviewed, revised, and implemented as required by TS Section 6.4, the inspector reviewed selected aspects of:

- Reactor Logbook Nos. 63, 64, and 65
- Various procedures including:
  - AP-05, "Lock-out Tag-out Procedure," Rev. 0
  - AP-06, "Safety Conscious Work Environment," Rev. 0
  - RINSC CP-04, "Alarm, Scram, and Interlock Checks," Rev. 11
  - RINSC Quality Procedure-01, "Quality Assurance Plan Implementing Procedure," Rev. 0
- NRSC meeting minutes, dated December 11, 2017, through the present

b. Observations and Findings

Procedures had been developed for the safe, routine operation of the reactor, as well as for abnormal circumstances. The inspector verified that substantive procedural changes, as well as all new procedures, were being screened in accordance with the licensee's 10 CFR 50.59 process. Following that, the procedures were reviewed and approved by the NRSC as required by the TS.

The process for training and review of new procedures and procedure changes was discussed with the RS. Through examples of various E-mail communications, the RS demonstrated that new and revised procedures were routed to staff members by that means. Periodic staff meetings were also held to review facility and procedure changes.

The inspector determined, through observation of various activities at the facility including reactor operation, that licensee personnel conducted activities in accordance with applicable procedures. It was noted that the facility procedures had been revised, reviewed, and approved as required.

c. Conclusion

The procedural review, revision, and implementation program satisfied the TS requirements.

## 6. Fuel Movement

### a. Inspection Scope (IP 69009)

The inspector reviewed the following to verify compliance with TS Subsections 4.9.2 and 6.8.1, which require visual inspection of fuel elements every 5 years on a rotating basis and maintenance of records associated with fuel inventories and transfers, respectively:

- Reactor Logbook Nos. 63, 64, and 65
- RINSC, IP-01, "Core Element Movement and Inspections," Rev. 2
- RINSC, OP-05, "Reactor Fuel/Reflector Movement," Rev. 3
- Reactor Data notebook containing the fuel element inspection sheets and the rotating inspection schedule for inspecting the elements

### b. Observations and Findings

The inspector reviewed the licensee's fuel handling procedures and verified that fuel was generally inspected in accordance with a specific inspection schedule. The inspector reviewed documentation of selected fuel movements and interviewed licensee staff about the process. A plan for each series of fuel movements was developed prior to the activity and used for core refueling, core rearrangement, and performing inspections of fuel elements. It was noted that fuel inspections had been completed as scheduled in 2017 and 2018, and that the inspection documents contained descriptions of fuel conditions including discolorations and markings. (The fuel inspection for 2019 was pending.) It was also noted that the fuel handling equipment was properly stored and secured.

The inspector compared the current location of selected fuel elements in the reactor core (as illustrated by a printed core configuration or map) with the information maintained on the Fuel Status Board in the Control Room and on the fuel movement sheets. Fuel was being used and stored in the locations as indicated and no problems were noted. The licensee's current core was designated as core "LEU Core #7."

The inspector noted that the licensee had shipped spent fuel from the facility in the recent past. Therefore, the inspector reviewed the fuel handling portion of the project. A specific fuel handling and movement plan had been developed for this evolution. A review of the completed documents indicated that the fuel movement plan had been followed and the movement portion of the project was completed as outlined.

### c. Conclusion

Fuel movements were conducted in accordance with written procedures that met the TS requirements. Fuel inspections were being completed annually as required.

## **7. Surveillance**

### **a. Inspection Scope (IP 69010)**

The inspector reviewed the following to: 1) verify compliance with the limiting conditions for operation specified in TS Sections 3.1 through 3.9, and 2) determine whether periodic surveillance tests, checks, and calibrations of selected safety systems were being performed as stipulated in TS Sections 4.1 through 4.9:

- RINSC Maintenance Board (Spreadsheet)
- Reactor Logbook Nos. 63, 64, and 65
- Reactor Data Notebook and associated records documenting various surveillance items
- Confinement System notebook and associated documents
- Primary Water Analysis notebook and associated documents
- Secondary Water Analysis notebook and associated documents
- Reactor operations documents maintained in Operating Data Notebooks
- Instrumentation Calibration notebook and associated documents including:
  - Nuclear Instrument calibration forms
  - Calibration forms of various monitors
- Various RINSC Reactor Parameter Testing Procedures (TPs) including:
  - TP-01, "Shim Safety Blade Drop Time Measurement," Rev. 2
  - TP-03, "Determining Control Rod Worth," Rev. 1
  - TP-04, "Control Rod Reactivity Insertion Rates," Rev. 3
  - TP-05, "Determining Shutdown Margin and Excess Reactivity," Rev. 0
- RINSC Annual Reports for the last two reporting periods as noted above

### **b. Observations and Findings**

The inspector reviewed various surveillance records including nuclear instrumentation calibration forms, shim safety blade inspection forms, reactivity worth calculation forms, and alarm, scram, and interlock check sheets. The inspector noted that data recorded in the reactor logbooks and on the surveillance data sheets indicated that system and instrument checks, tests, and calibrations had been completed on schedule and in accordance with licensee procedures. The results of these surveillance items were found to be within the TS and procedurally prescribed parameters. No problems were noted.

### **c. Conclusion**

The surveillance program was being conducted as specified by TS requirements.

## **8. Emergency Preparedness**

### **a. Inspection Scope (IP 69011)**

The inspector interviewed staff members and reviewed various documents to verify compliance with regulatory requirements and the RINSC E-Plan Rev. 6:

- RINSC Emergency Procedure-01, "Emergency Plan Implementing Procedure," Rev. 5
- Emergency Preparedness Notebook containing documentation of various activities including:
  - Fire Alarms Tests
  - Emergency training and drills conducted during the past 2 years
  - Completion of annual supply inventories documented on Emergency Supply Inventory Page (Attachment A) (NSC-83)
  - Emergency Communication Tests conducted with various support agencies
- Confinement System Notebook containing documentation of various activities including:
  - Emergency Power System Check List
  - Evacuation System Check List (NSC-14B)
  - Emergency Exhaust System Iodine Filter Efficiency Tests
- Letter of Agreement between Narragansett Police Department and RINSC, signed by Mr. M. J. Davis and by Chief S. Corrigan, on December 11, 2017
- Letter of Agreement for Medical Services, signed by L. Sivaprasad, MD, Vice President of Medical Affairs and Chief Medical Officer, Rhode Island Hospital, and submitted to Dr. C. Goodwin, RIAEC, by letter dated October 17, 2019
- Letter of Agreement between Narragansett Fire Department and RINSC, signed by Mr. M.J. Davis and Chief S. Partington on December 12, 2017

b. Observations and Findings

The inspector reviewed the E-Plan in use at the reactor and verified that it was being reviewed and updated biennially as required. The inspector also reviewed the associated implementing procedures and noted that they were also reviewed biennially and revised as needed.

Through records review, including the two most recent annual drill reports referencing the drills conducted on December 13, 2017, and November 16, 2018, the inspector determined that staff were knowledgeable of the proper actions to take in case of an emergency. Training for licensee personnel was typically accomplished following the evacuation and emergency drill. The inspector verified that emergency and evacuation drills were conducted annually as required by the E-Plan. Training for offsite support organizations (i.e., police and fire department personnel) was provided whenever the organizations were available or whenever the organizations requested a tour of the facility.

The inspector verified that the Letters of Agreement between the RINSC facility and the Narragansett Police Department and Narragansett Fire Department remained in effect. These agreements stipulated that police and fire personnel would respond during an emergency and would provide support for the facility. The inspector also verified that the agreement between the reactor facility and Rhode Island Hospital was current. That agreement ensured that the hospital would provide RINSC personnel with needed support in case a staff member became contaminated and needed emergency medical care.

Communications capabilities with support groups were acceptable and the various items of equipment (e.g., telephones and the building public address system) were in use daily. Portable radios were also available for use as needed and were checked annually. Emergency call lists had been revised and were available in the control room and in various areas around the facility as required, as well as in the Emergency Support Center. The call list was being updated annually as required. The latest updated list was published on October 15, 2019.

During the inspection, the inspector, accompanied by the RS, visited the licensee's Emergency Support Center located in a nearby building and verified that the emergency supplies, instruments, and information maintained inside the locked emergency cabinet were present for use in accordance with the E-Plan. The inspector also reviewed the records indicating that the emergency supplies were inventoried on an annual basis as part of the surveillance program required by the E-Plan. No problems or deficiencies were noted.

Also, during the inspection, the inspector and the facility Assistant Director for Radiation and Reactor Safety visited the Narragansett Fire Department Station No. 2 and met with two on duty Narragansett Fire Department personnel who would respond to an emergency if one were to occur at RINSC. The personnel appeared to be knowledgeable in handling all types of emergencies and the fire fighting and rescue vehicles in the station appeared to be new and well maintained. The inspector noted that there was a good working relationship between the licensee and Narragansett Fire Department personnel.

c. Conclusion

The licensee maintained an effective emergency preparedness program through implementation of the E-Plan and the associated implementing procedure. Drills and exercises were being conducted along with follow-up critiques in support of staff training.

**9. Exit Interview**

At the conclusion of the inspection on November 7, 2019, the inspector presented the inspection results to licensee management and staff. The inspector reiterated the areas inspected and discussed the inspection observations. The licensee acknowledged the results of the inspection and did not identify as proprietary any of the material provided to or reviewed by the inspector during the inspection.

## **PARTIAL LIST OF PERSONS CONTACTED**

### **Licensee Personnel**

C. Goodwin	Director of RINSC, and SRO
J. Davis	Assistant Director for Operations and SRO
P. Martin	Reactor Supervisor and SRO
J. McCullah	Health Physicist
M. Marrapese	Principle Reactor Operator
S. Nam	Assistant Director for Radiation and Reactor Safety, and Campus Radiation Safety Officer
B. Sirr	Facility Engineer and RO

### **Other Personnel**

T. Sweet	Lieutenant, Station No. 2, Narragansett Fire Department
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## **INSPECTION PROCEDURES USED**

IP 69003	Class I Research and Test Reactor Operator Licenses, Requalification, and Medical Examinations
IP 69005	Class I Research and Test Reactor Experiments
IP 69006	Class I Research and Test Reactors Organization and Operations and Maintenance Activities
IP 69007	Class I Research and Test Reactor Review and Audit and Design Change Functions
IP 69008	Class I Research and Test Reactor Procedures
IP 69009	Class I Research and Test Reactor Fuel Movement
IP 69010	Class I Research and Test Reactor Surveillance
IP 69011	Class I Research and Test Reactor Emergency Preparedness

## **ITEMS OPENED, CLOSED, AND DISCUSSED**

### **Opened**

None

### **Closed**

None

### **LIST OF ACRONYMS USED**

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
AP	Administrative Procedure
CP	Calibration Procedure
E-mail	Electronic mail
E-Plan	Emergency Plan
IP	Inspection Procedure
MP	Maintenance Procedure
Nos.	Numbers
NRC	U.S. Nuclear Regulatory Commission
NRSC	Nuclear and Radiation Safety Committee
NSC	Nuclear Science Center
OP	Operating Procedure
Rev.	Revision
RIAEC	Rhode Island Atomic Energy Commission
RINSC	Rhode Island Nuclear Science Center
RO	Reactor Operator
RS	Reactor Supervisor
SRO	Senior Reactor Operator
TP	Testing Procedure
TS	Technical Specification(s)
XP	Experiment Procedure